

REMARKS

Claims 1-26 remain in the present application. Claims 1, 8 and 23 are amended herein. Applicant respectfully asserts that no new matter has been added as a result of the claim amendments. Applicant respectfully requests further examination and reconsideration of the rejections based on the arguments set forth below.

Claim Rejections – 35 U.S.C. §102

Claims 1-2, 5-10, 12 and 17-24 are rejected under 35 U.S.C. §102(b) as being unpatentable over United States Patent Number 5,742,142 to Witt (hereafter referred to as “Witt”). Applicant has reviewed the cited reference and respectfully asserts that the embodiments of the present invention as recited in Claims 1-2, 5-10, 12 and 17-24 are neither anticipated nor rendered obvious by Witt for the following reasons.

Applicant respectfully directs the Examiner to independent Claim 1 that recites a fan speed controller comprising (emphasis added):

a pulse width modulation generator for generating a pulse width modulation signal, said pulse width modulation generator further for generating a complement of said pulse width modulation signal, wherein an operating frequency of said pulse width modulation generator is approximately within the range of 200-1,000 KHz; and

a drive stage circuit coupled to said pulse width modulation generator and for switch mode converting a supply voltage into a linear voltage for driving a fan, wherein a voltage level of said linear voltage is a function of said pulse width modulation signal, and wherein said drive stage circuit is further for switch mode converting said supply voltage in accordance with said pulse width modulation signal and said complement of said pulse width modulation signal.

Independent Claims 8 and 23 recite limitations similar to independent Claim 1. Claims 2, 5-7, 9-10, 12, 17-22 and 24 depend from their respective independent Claims and recite further limitations to the claimed invention.

Applicant respectfully asserts that Witt fails to teach or suggest the limitations of “said pulse width modulation generator further for generating a complement of said pulse width modulation signal” as recited in independent Claim 1. As recited and described in the present application, a pulse width modulation generator is operable to generate a complement of said pulse width modulation signal.

In contrast to the claimed embodiments, Applicant fails to find any teaching or suggestion in Witt of a pulse width modulation generator operable to generate a complement of said pulse width modulation signal as claimed. Further, although Witt may teach PWM generator 22 (Figure 1), Witt fails to teach or suggest that PWM generator generates *a complement of* a PWM signal as claimed. Accordingly, Applicant reiterates that Witt fails to teach or suggest the limitations of “said pulse width modulation generator further for generating a complement of said pulse width modulation signal” as recited in independent Claim 1.

Applicant respectfully asserts that Witt fails to teach or suggest the limitations of “wherein said drive stage circuit is further for switch mode converting said supply voltage in accordance with said pulse width modulation

signal and said complement of said pulse width modulation signal” as recited in independent Claim 1. As recited and described in the present application, a drive stage circuit is operable to switch mode convert a supply voltage into a linear voltage for driving a fan, where the switch mode converting is performed in accordance with a pulse width modulation signal and a complement of the pulse width modulation signal.

In contrast to the claimed embodiments, Applicant fails to find any teaching or suggestion of the generation of a complement of a PWM signal as discussed above. Additionally, Applicant fails to find any teaching or suggestion of switch mode converting a supply voltage in accordance with a PWM signal and the complement of a PWM signal as claimed. Accordingly, Applicant reiterates that Witt fails to teach or suggest the limitations of “wherein said drive stage circuit is further for switch mode converting said supply voltage in accordance with said pulse width modulation signal and said complement of said pulse width modulation signal” as recited in independent Claim 1.

For these reasons, Applicant respectfully asserts that independent Claim 1 is neither anticipated nor rendered obvious by Witt, thereby overcoming the 35 U.S.C. §102(b) rejection of record. Since independent Claims 8 and 23 recite limitations similar to those discussed above with respect to independent Claim 1, independent Claims 8 and 23 also overcome the 35 U.S.C. §102(b) rejection of record. Since Claims 2, 5-7, 9-10, 12, 17-22 and 24 depend from and recite further limitations to the invention claimed in their respective independent Claims,

Claims 2, 5-7, 9-10, 12, 17-22 and 24 also overcome the 35 U.S.C. §102(b) rejection of record. Therefore, Claims 1-2, 5-10, 12 and 17-24 are allowable.

Claim Rejections – 35 U.S.C. §103

Claims 3-4, 11, 13-16 and 25-26

Claims 3-4, 11, 13-16 and 25-26 are rejected under 35 U.S.C. §103(a) as being unpatentable over Witt in view of United States Patent Number 6,801,004 to Frankel et al. (hereafter referred to as “Frankel”). Applicant has reviewed the cited references and respectfully asserts that the embodiments of the present invention as recited in Claims 3-4, 11, 13-16 and 25-26 are not rendered obvious by Witt in view of Frankel for the following reasons.

Applicant respectfully asserts that Frankel, either alone or in combination with Witt, fails to cure the deficiencies of Witt discussed above with respect to independent Claim 1. Specifically, Applicant respectfully asserts that Frankel also fails to teach or suggest the limitations of “said pulse width modulation generator further for generating a complement of said pulse width modulation signal” and “wherein said drive stage circuit is further for switch mode converting said supply voltage in accordance with said pulse width modulation signal and said complement of said pulse width modulation signal” as recited in independent Claim 1, and similarly recited in independent Claims 8 and 23. Since dependent Claims 3-4, 11, 13-16 and 25-26 recite further limitations to the invention claimed in their respective independent Claims, dependent Claims 3-4, 11, 13-16 and 25-

26 are not rendered obvious by Witt in view of Frankel. Therefore, Claims 3-4, 11, 13-16 and 25-26 are allowable.

Claim 10

Claim 10 is rejected under 35 U.S.C. §103(a) as being unpatentable over Witt in view of United States Patent Number 4,706,180 to Wills (hereafter referred to as “Wills”). Applicant has reviewed the cited references and respectfully asserts that the embodiments of the present invention as recited in Claim 10 is not rendered obvious by Witt in view of Wills for the following reasons.

Applicant respectfully asserts that Wills, either alone or in combination with Witt, fails to cure the deficiencies of Witt discussed above with respect to independent Claim 1. Specifically, Applicant respectfully asserts that Wills also fails to teach or suggest the limitations of “said pulse width modulation generator further for generating a complement of said pulse width modulation signal” and “wherein said drive stage circuit is further for switch mode converting said supply voltage in accordance with said pulse width modulation signal and said complement of said pulse width modulation signal” as recited in independent Claim 1, and similarly recited in independent Claim 8. Since dependent Claim 10 recites further limitations to the invention claimed in independent Claim 8, dependent Claim 10 is not rendered obvious by Witt in view of Wills. Therefore, Claim 10 is allowable.

CONCLUSION

Applicant respectfully asserts that Claims 1-26 are in condition for allowance and Applicant earnestly solicits such action from the Examiner.

The Examiner is urged to contact Applicant's undersigned representative if the Examiner believes such action would expedite resolution of the present application.

Please charge any additional fees or apply any credits to our PTO deposit account number: 50-4160.

Respectfully submitted,

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